

Bellevue Road Bridge
(Bellevue Bridge)
Spanning Lake Orion to Bellevue Island
~~Village of~~ Lake Orion
Oakland County
Michigan

HAER No. MI-111

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Great Lakes Systems Office
Department of the Interior
1709 Jackson Street
Omaha, Nebraska 68102-2571

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BELLEVUE ROAD BRIDGE
(Bellevue Bridge)
HAER No. MI-111 (page 1)

HISTORIC AMERICAN ENGINEERING RECORD
BELLEVUE ROAD BRIDGE (Bellevue Bridge)

Location: Spanning Lake Orion to Bellevue Island,
~~Village of~~ Lake Orion, Oakland County,
Michigan

Quad: Oxford, Michigan 1:24,000

UTM: 17.315740.4738670

Date of Construction: 1928-1929

Engineer: Verner, Wilhelm, & Shreve, Architects and
Engineers

Builder: Stokes & Whittingham, Mason Contractors

Present Owner: Village of Lake Orion
37 East Flint Street
Lake Orion, MI 48362

Present Use: Vehicular Bridge

Significance: The Bellevue Road Bridge was completed at
the time that Bellevue Island changed
from a vacation community of seasonal
cottages to a year-round settlement,
reflecting the decline of Lake Orion as
a resort area. The design of this bridge,
with its massive concrete railings,
reflects an attempt to produce an
aesthetically-pleasing structure.

Historian: Dr. Charles K. Hyde, Wayne State
University, Detroit, MI 48202,
October 1995-March 1996.

BELLEVUE ROAD BRIDGE
(Bellevue Bridge)
HAER No. MI-111 (page 2)

HISTORY

Lake Orion, the name of a body of water and the adjacent village, is located in southeastern Michigan, in the northwestern portion of Oakland County, approximately 25 miles northwest of the City of Detroit and 8 miles north of Pontiac. The first white settlers came to this area in the early 1830s, lured by deceptive advertisements produced by a real estate speculator. The lake and village were named "Canandaigua" until 1854. With the arrival of the railroad in 1872, this land of beautiful lakes and islands quickly became a summer resort area. The initial development took place on Park Island, at the southeast corner of Lake Orion, where the Orion Park Association built a dance hall, amphitheater, and a bridge to the mainland in 1874. By the mid-1880s, the area around the lake boasted several hotels and boarding houses, scores of summer cottages, and two steam-powered excursion boats to move people around the lake.¹

The island linked to the mainland by the Bellevue Road Bridge, initially known as "Spencer's Island," had peach orchards and the residence of Mr. & Mrs. John Meyers. The Orion Improvement Company bought the island in 1891, built the elaborate three-story Bellevue Hotel there, and sold other parcels for summer cottages. Summer tourism in the Lake Orion vicinity boomed in the 1890s and included various religious groups who viewed this area as an ideal place to hold summer conventions, retreats, revival meetings, and Chautauquas. The churches formed the Assembly Resort Association in 1898 and bought Bellevue Island, along with the other major islands on Lake Orion and considerable shoreline property as well. At about this time, the Assembly Resort Association built a timber bridge connecting the island to the narrow peninsula extending to it from the south. A detailed 1896 map of the area shows "Prospect Avenue" on the peninsula to the south ending at the water, while a 1908 map shows a timber bridge to "Assembly Island," a name which continued well into the next decade.²

BELLEVUE ROAD BRIDGE
(Bellevue Bridge)
HAER No. MI-111 (page 3)

The Lake Orion area boomed in the twentieth century, spurred by the coming of electric interurban rail service (the Detroit United Railway) in 1900. The Bellevue Hotel was enlarged in 1902, other hotels were built on Bellevue Island, including the more modest Lake View. In 1901, a new double-decked excursion boat, The Chautauqua joined the fleet of boats plying Lake Orion. The Assembly Resort Association had financial problems and in 1906 sold its properties to the Lake Orion Power and Improvement Association, which in turn sold out to the Lake Orion Summer Homes Company in 1910. Park Island became an amusement park, complete with a roller coaster. In 1913, a newly-constituted Assembly Resort Association repurchased Bellevue Island (Assembly Island), which became the center of religious meetings, while visitors to Park Island enjoyed more worldly amusements.³

Lake Orion rapidly declined as a summer resort area in the 1930s, the victim of several major economic and social trends. The Depression severely reduced summer excursions, while the simultaneous rise of the private automobile and the decline of electric interurban and steam railroad passenger service permanently changed middle class leisure habits. The Bellevue Hotel was closed and demolished in 1934, a few years after the Lake View Hotel had suffered the same fate. In late 1933, Bill and Mary O'Brien converted their summer cottage on Bellevue Island for year-round use and became the first residents to do so.⁴

The history of the current concrete bridge began in January 1928, when the Lake Orion Village Council agreed to ask the voters to approve a bond issue of \$12,000 "to build a highway bridge between the Mainland and Bellevue Island to replace the existing wooden structure." The voters approved the bond issue in March and following some brief delays in selling the bonds, in mid-August the Village Council employed the Detroit engineering firm of Verner, Wilhelm & Shreve to design the new bridge. The firm would be paid 5% of the total cost of the project to prepare plans and specifications for the bridge and for supervising the construction. Verner, Wilhelm & Shreve first appeared in the Detroit City Directory in 1921 as "Verner, Wilhelm & Molby, Architects and Engineers," with offices in the Book Building. The firm disappeared from the listings in 1932, probably a victim of the Depression.⁵

BELLEVUE ROAD BRIDGE
(Bellevue Bridge)
HAER No. MI-111 (page 4)

In late August, the Village Council accepted a construction proposal from Stokes & Whittingham, a Detroit contractor, "for the sum of \$7875 plus proposed changes to be governed by unit prices. Changes to be approved by Engineers Verner, Wilhelm & Shreve and the Street Committee." The Council, however, did not authorize the Village Clerk to sign the contract until 8 October 1928. The bridge contractor was listed in the Detroit City Directory in the 1920s as "George F. Stokes, William H. Whittingham, Mason Contractors," with offices in the Penobscot Building. George F. Stokes initially appeared in the 1892 Directory, listed as a "contractor," and then as a "mason" the following year. The firm of Stokes & Whittingham first appeared in the Directory in 1894 and was listed continuously through 1933 before disappearing.⁶

The precise date of completion for the Bellevue Road Bridge is not known, because copies of the local newspaper have not survived. Perhaps as an afterthought, the Lake Orion Village Council ordered "four ornamental lights for Bellevue Bridge" in late May 1929 and two months later agreed to buy a switch to control the lights on the bridge.⁷

There have been only two minor alterations to the bridge since it opened, but neither can be dated precisely. Sometime in the late 1950s or early 1960s, the Village of Lake Orion removed the streetlights which were installed at the four outer edges of the railings above the abutments. The original tubular steel railings, which extended from the end of the concrete railings along the lengths of the four wingwalls, also disappeared by the early 1960s, perhaps earlier.⁸

BELLEVUE ROAD BRIDGE
(Bellevue Bridge)
HAER No. MI-111 (page 5)

DESCRIPTION

The Bellevue Road Bridge is an earth-filled reinforced concrete arch bridge, consisting of a single arch span and reinforced concrete abutments. It measures 52 feet long overall, including the massive abutments, 23 feet wide, and provides a clear roadway of 19 feet. The arch proper has a span of 35 feet 10 inches, with a rise of 1 foot 9 inches above the spring line, which is 7 feet above the mean water level of Lake Orion. The reinforced concrete abutment walls on the north and south ends of the bridge are both 13 feet in length and, with their railings, extend 12 feet above the water line.

The distinctive appearance of the Bellevue Road Bridge derives from its uncommon design. The bridge deck, rather than extending horizontally over the arch spandrel, the normal engineering practice on an arch bridge, instead parallels the gentle arch curve, creating a deck and roadway with a distinct hump. The concrete deck is 11 inches thick throughout the length of the bridge and is in turn paved with approximately 4 inches of asphalt. This configuration creates a roadway with a crown parallel to the crown of the arch, but with an elevation approximately 2 feet 6 inches above the elevation of the approaches.

The massive, monolithic appearance of the Bellevue Road Bridge comes in large part from the massive concrete railings which extend the length of the arch span and abutments. The railings and arch span together measure 4 feet 11 inches high on the outside faces of the bridge, but only 2 feet 8 inches above the pavement. The railings are 24 inches thick above the arch span, but above the abutments, the railings are 12 inches thick at the top and 8 inches thick at the bottom. The rest of the bridge structure consists of four large reinforced concrete wingwalls which extend from the abutments to the shoreline and serve as retaining walls for the approaches. These are 8 inches thick and rise 8 feet above the water level. The southwest wingwall is 41 feet long, while the remaining wingwalls are all 30 feet in length. There are no clear borders between the arch span, abutments, and wingwalls, creating a single monolithic concrete structure more than 100 feet long.

BELLEVUE ROAD BRIDGE
(Bellevue Bridge)
HAER No. MI-111 (page 6)

The monolithic appearance of the bridge, however, is broken by simple decorative detailing. To break up the monotonous look of uninterrupted concrete walls, each railing has a total of nine rectangular panels, two each in the railing segments above the abutments and five in each railing above the arch span. The panels, each 16 inches wide and 5 feet 6 inches long, are centered vertically within each railing. The panels are set off from the surrounding concrete by 1-inch wide bevelled edges. The panels are found on both the outside and the inside surfaces of the railings.

The railings above the abutments were also given some decorative detailing. They are 12 inches thick for the top 6 inches of their height, then step down to 10.50 inches thick for the next 6 inches, and then are 8 inches thick down to the pavement. The two parallel lines created by this railing detail above the abutments continue along the top of the arch span as well. The same detail was also added just above the bottom of the arch span.

BELLEVUE ROAD BRIDGE
(Bellevue Bridge)
HAER No. MI-111 (page 7)

NOTES

¹Arthur L. Hagman, Oakland County Book of History (Pontiac, MI: 1970), pp. 411-413.

²Ibid., p. 413; Jim Ingram, "Time Traces," Oakland Press, Orion/Oxford Reminder, 5 January 1994, p. 5 and 29 September 1994, p. 4; Kace Publishing Company, Illustrated Atlas of Oakland County, Michigan (Race, Wisconsin: Kace Publishing Company, 1896), map of Orion Township; and George Ogle & Company, Standard Atlas of Oakland County, Michigan (Chicago: George A. Ogle & Company, 1908), map of Orion.

³"Lake Iron Grows Out of the Wilderness Into Modern City," Orion Weekly Review, Vol. LI, No. 4 (18 December 1931), p. 10.

⁴Jim Ingram, "Time Traces," Oakland Press, Lake Orion/Oxford Reminder, 5 January 1994, p. 5 and 29 September 1994, p. 4.

⁵Village of Lake Orion, Minutes of Village Council Meetings of 30 January, 15 March, and 13 August 1928 and Polk's Detroit City Directory (Detroit: R.L. Polk & Company, 1921-1933).

⁶Village of Lake Orion, Minutes of Village Council Meetings of 27 August and 8 October 1928 and Polk's Detroit City Directory (Detroit: R.L. Polk & Company, 1893-1935). According to James Ingram, a long-time Lake Orion resident and historian, both Stokes and Whittingham owned summer cottages on Lake Orion (telephone interview of 29 August 1995).

BELLEVUE ROAD BRIDGE
(Bellevue Bridge)
HAER No. MI-111 (page 8)

⁷Village of Lake Orion, Minutes of Village Council
Meetings of 20 May and 29 July 1929.

⁸Long-time local residents have no recollection of
railings on the bridges, but a photograph in the Orion Weekly
Review, 18 December 1931, p. 15, shows the railings in place.

SOURCES OF INFORMATION

- A. Engineering Drawings: The original engineering drawings of this bridge could not be located.
- B. Historic Views: A search of the archives of Oakland County Pioneer and Historical Society, two local historical societies, the Orion Township Public Library, and several local newspapers yielded no historic views of this bridge.

C. Bibliography

1. Primary and Unpublished Sources:

Village of Lake Orion, Minutes of Village Council Meetings, March 1905 to the present. Office of the Village Clerk, 37 East Flint Street, Lake Orion, MI 48362

2. Secondary and Published Sources:

Anonymous. "Lake Orion of 50 Years Ago, As the Village Appeared in 1881," Orion Weekly Review, Vol. LI, No. 6 (28 December 1931), p. 9.

Anonymous. "Lake Orion Grows Out of the Wilderness Into Modern City," Orion Weekly Review, Vol. LI, No. 4 (18 December 1931), pp. 1, 10-11, 15.

Hagman, Arthur A. Oakland County Book of History. Pontiac, Michigan, 1970.

History of Oakland County, Michigan. Philadelphia: L.H. Everts & Co., 1877.

Kace Publishing Company. Illustrated Atlas of Oakland County, Michigan. Racine, Wisconsin: Kace Publishing Company. 1896.

Ogle, George A. Standard Atlas of Oakland County, Michigan. Chicago: George A. Ogle & Company, 1908.

BELLEVUE ROAD BRIDGE
(Bellevue Bridge)
HAER No. MI-111 (page 10)

C. Bibliography (continued)

2. Secondary and Published Sources

R.L. Polk & Company. Polk's Detroit City Directory. Detroit: R.L. Polk & Company, 1894-1936.

Scott, Paul M. Orion Since 1818. Lake Orion: Orion Township Library Board, 1976.

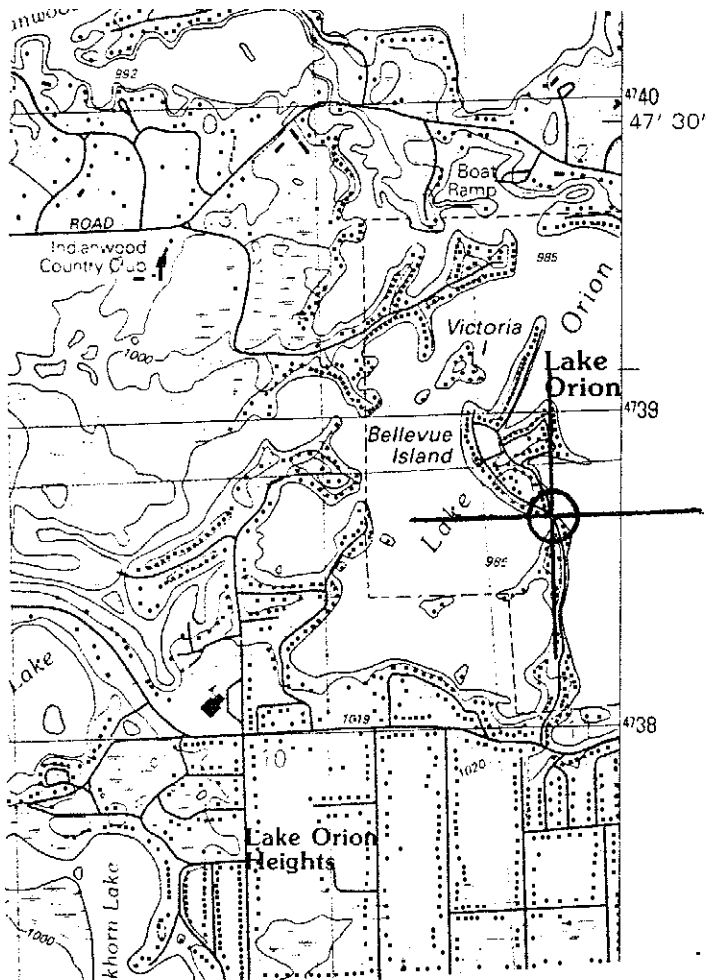
Seeley, Thaddeus, editor. History of Oakland County, Michigan. 2 volumes. Chicago: Lewis Publishing Company, 1912.

Young, Richard. History of Northeast Oakland County. Oxford, Michigan Oxford Leader, 1976.

BELLEVUE ROAD BRIDGE
(Bellevue Bridge)
HAER No. MI-111 (page 11)

OXFORD, MICHIGAN QUADRANGLE, 1:24,000

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BELLEVUE ROAD BRIDGE
(Bellevue Bridge)
HAER No. MI-111 (page 12)

SITE PLAN

